



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,708	07/22/2003	Roger L. Poe	506419-0057	7576

27910 7590 09/10/2004

STINSON MORRISON HECKER LLP  
ATTN: PATENT GROUP  
1201 WALNUT STREET, SUITE 2800  
KANSAS CITY, MO 64106-2150

EXAMINER

YEUNG, JAMES C

ART UNIT	PAPER NUMBER
----------	--------------

3749

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/624,708

Applicant(s)

POE, ROGER L.

Examiner

James C Yeung

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This Office action is responsive to applicant's communication received August 23, 2004. The previous Office action mailed July 31, 2004 is hereby withdrawn and the following action is substituted therefor. The period for response is reset to expire three (3) months from the date of this letter as noted on the cover sheet with the correspondence address. The error is regretted.

#### ***Claim Rejections - 35 USC § 112***

1. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 8-9, the recitation "at least one port (emphasis added) extending through the outer wall at a location between the discharge nozzle and said inlet intercommunicating the conduit and the air passageway (emphasis added)" is confusing. It is noted that on page 19, lines 19-20 of the instant specification, it states that the at least one port communicates with the space surrounding the conduit and the air passageway. Further clarification is required.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 3749

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5-10, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Gensler '729 (prior art cited by applicant). The structure as claimed is fully anticipated by Gensler '729.

In particular, Gensler '729 shows in Figs, 2-3 a low NOx burner nozzle assembly comprising:

an elongated hollow burner tube (30) providing a longitudinally extending conduit for supplying a mixture of fuel and air to a combustion zone the burner tube (30) having an outer wall (15) surrounding the conduit (30), a longitudinal extending central axis and a pair of spaced ends;

a discharge nozzle (34) at one of the ends of the burner tube (30);

an inlet (at 29) for a mixture of fuel and air at the other end of the burner tube (30);

an air passageway (35) located outside the outer wall of the burner tube (30); and

at least one port (27) extending through the outer wall (15) at a location between the discharge nozzle (34) and the inlet intercommunicating the space surrounding the conduit (30) and the air passageway (35).

4. Claims 21-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Gensler '838 (prior art cited by applicant). The method as claimed is fully anticipated by Gensler '838.

Art Unit: 3749

In particular, Gensler '838 shows in the Figure a method for operating a burner comprising:

causing (at 14) a mixture of fuel and air to flow toward a centrally located point adjacent a face of f burner tile (11);

causing(at 20) a stream (c)of at least one of additional air (35) and recirculated flue gas (b) to flow toward a location of adjacent the face (11) which is spaced laterally from the point; and

separating (at 27) a portion of the mixture (a) and intermixing the same with the stream (c,b) to thereby create fuel lean admixture (d) capable of flameless oxidation before the same reaches the location.

In regard to claim 22, Gensler '838 shows in the Figure that the method further comprising separating (at 34) a second portion of the mixture into a plurality of separate streams (e), causing the streams (e) to flow radially outwardly from the point across the face of the tile (11) and causing the streams (e) to combust to form a flame which surrounds the point, and flameless oxidizing the admixture at the face to create relatively cool oxidation products.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gensler '729 (prior art cited by applicant).

Gensler '729 discloses the invention substantially as claimed. However, Gensler '729 does not disclose that the port is disposed at an angle relative to a central axis.

It is noted that to dispose the port at an angle in the manner as recited is deemed matter of design choice depending upon the desired operational and performance characteristic of the burner. No patentable weight can be given thereto in the absence of a showing of criticality by applicant.

7. Claims 11, 13-14, 16, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gensler '729 (prior art cited by applicant) in view of Zink '712 (prior art cited by applicant).

Zink '712 teaches the use of a plurality of flow directing members (26, Fig. 2) for the purpose of discharging a mixture of fuel and air in a generally radial direction so as to promote stable combustion (col. 1, lines 29-39).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the burner head of Gensler '729 with a plurality of flow directing member in the manner as taught by Zink '712 in order to discharge the mixture of fuel and air in a generally radial direction as to promote stable combustion.

Art Unit: 3749

8. Claim 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Newby is cited to show a low NO<sub>x</sub> flat flame burner.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James C Yeung whose telephone number is 703 308-1047. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JY  
September 8, 2004

  
James C. Yeung  
Primary Examiner